# The CHEMIST

FEBRUARY, 1938 VOLUME XV, NO. 2

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## CHEMIST ADVISORY COUNCIL

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# *The* CHEMIST

*Publication of*

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V. F. KIMBALL, *Editor*, 233 Broadway, New York City

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THE AMERICAN INSTITUTE OF CHEMISTS
HOWARD S. NEIMAN, *Secretary*
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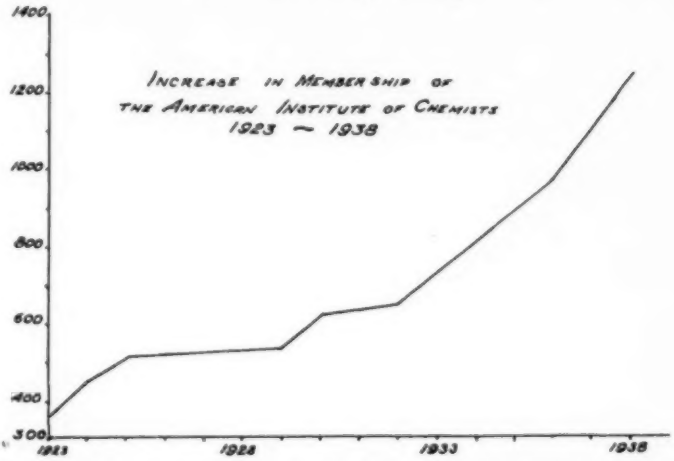
# Membership Graph




The above graph shows strikingly the continued growth of the membership of THE AMERICAN INSTITUTE OF CHEMISTS. The accelerated growth of the last few years has been due largely to the systematic effort on the part of a few members of the INSTITUTE and of the Membership Committee. In most cases chemists became Fellows on being invited by a simple and brief letter which was accompanied by a small folder giving some facts regarding the INSTITUTE. A great many who did not see their way clear to join expressed themselves as being in full sympathy with the aims and purposes of the organization. The Membership Committee can be greatly aided in its work by receiving from members of the INSTITUTE lists of chemists who are eligible for election together with a brief statement covering degrees, positions held, and scholarly and industrial attainments of the individuals proposed. The Membership Committee is also prepared to furnish members with lists of those in their cities or states to whom letters have been sent. The great task of the INSTITUTE in sponsoring and supporting the Chemist Advisory Council calls for a larger, better distributed and more active membership. The influence of the INSTITUTE is making itself felt in the profession. Every member should help in increasing our numbers by adding more of the same type of chemist that we have already been so successful in bringing into the INSTITUTE in these last few years.

W. T. READ, *Chairman, Membership Committee.*



CHEMISTRY HALL LIB

# Objectives
## of the
# AMERICAN INSTITUTE of CHEMISTS

To give chemists professional solidarity.

To put the profession back of a definite code of ethics.

To insist on adequate training and experience qualifications.

To educate the public to an understanding of what a chemist is.

To protect the public and the profession by fighting quackery.

To raise the economic status of chemists.

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HOWARD S. NEIMAN, *Secretary*
The American Institute of Chemists
233 Broadway, New York, N. Y.

Please send me an application blank for membership in the American Institute of Chemists.

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# Chemist Advisory Council, Inc.

*By* **M. R. Bhagwat, F.A.I.C.,** *Secretary*

THE CHEMIST ADVISORY COUNCIL, INC. has been organized and chartered as a membership corporation under the laws of the State of New York, January 13, 1938. The incorporators, who are also members of the board of directors of this organization, are as follows: Robert T. Baldwin, Marston T. Bogert, F.A.I.C., Frank G. Breyer, F.A.I.C., William W. Buffum, Hon. A.I.C., Walter S. Landis, George C. Lewis, Hon. A.I.C., William T. Read, F.A.I.C., Maximilian Toch, F.A.I.C., and Edward R. Weidlein, F.A.I.C.

The objectives of the corporation will be to promote the general welfare of chemists and chemical engineers.

It may be recalled that, about six years ago, a metropolitan emergency committee known as the Committee on Unemployment and Relief for Chemists and Chemical Engineers (also called Chemists' Unemployment Committee), now located at 300 Madison Avenue, New York City, was formed to alleviate distress among unemployed chemists and chemical engineers. This committee has done a splendid job during the last six years, not only by helping those in need, but also by bringing to the attention of employers the records of those registered resulting in employment. The committee also served as a general information bureau and meeting place for unemployed chemists. (Statistical details regarding the Committee's work appeared in recent issues of THE CHEMIST.)

The Chemist Advisory Council, Inc. will take over this emergency committee and will continue its broad objectives permanently as a national organization. The experience gained by the committee during this trying period of economic readjustments confronting chemists and chemical engineers will be of definite value to the new organization. Chronic difficulties now existing in the profession will be studied and an attempt will be made to suggest methods of reducing the number unemployed in the chemical industry.

The Council will also serve as a fact-finding committee and central registration office for chemists and chemical engineers. It will aim to study the relationship of the profession to the industry, through a study of employment and experience records, as well as of general industrial activity; to establish the relationship between the profession and the industry it serves. Through these investigations, the Council hopes to achieve a better and more sympathetic understanding of common prob-

lems between employed chemists, of common problems between employed chemists and employers, between manufacturers and their staffs, and between consultants and their clients.

The Chemist Advisory Council, Inc. will maintain a bureau of personal advice to guide recent graduates, unemployed chemists, unsuitably employed chemists and marginally employed chemists; to build up and maintain a morale commensurate with the dignity of the profession.

The Council will sponsor a placement bureau whereby a working register of all chemists and chemical engineers will be available. With continued efforts along this line, there will be on record not only personal information and the usual facts concerning education, technical, and business experience, but also a statement of preference and ambition—the position each would like if he could choose.

The entire organization of Chemist Advisory Council, Inc. will be run by chemists and chemical engineers for chemists and chemical engineers with the interest of the individual chemist and chemical engineer dominant.

At a recent meeting of Chemist Advisory Council, Inc., the following officers were elected for 1938:—Walter S. Landis, President; William T. Read, F.A.I.C., Vice-president; M. R. Bhagwat, F.A.I.C., Secretary; Robert T. Baldwin, Treasurer.

The standing committees of the Council for 1938 are:

EXECUTIVE COMMITTEE: Maximilian Toch, F.A.I.C., Frank G. Breyer, F.A.I.C., William T. Read, F.A.I.C.

FINANCE COMMITTEE: Walter S. Landis, William W. Buffum, Hon. A.I.C., George C. Lewis, Hon. A.I.C., A. Cressy Morrison, Hon. A.I.C., Edward R. Weidlein, F.A.I.C.

PUBLICITY COMMITTEE: Frank G. Breyer, F.A.I.C., Marston T. Bogert, F.A.I.C., William T. Read, F.A.I.C.

EMPLOYMENT AND GENERAL WELFARE: George C. Lewis, Hon. A.I.C., M. R. Bhagwat, F.A.I.C., Maximilian Toch, F.A.I.C.

GENERAL AFFAIRS AND COUNSEL: Edward R. Weidlein, F.A.I.C., A. Cressy Morrison, Hon. A.I.C., Maximilian Toch, F.A.I.C.

The formation of Chemist Advisory Council, Inc. and its present structure were evolved during a series of discussions held at Council meetings of THE AMERICAN INSTITUTE OF CHEMISTS. The members of the Council of the INSTITUTE and its Committee on Unemployment are to be congratulated in creating this independent organization which will devote its efforts exclusively to the welfare of men and women engaged in the chemical profession.

# BY-LAWS
# of
# CHEMIST ADVISORY COUNCIL, INC.

## ARTICLE I
### Name

SECTION 1. The name of this Corporation shall be Chemist Advisory Council, Inc.

## ARTICLE II
### Members

SECTION 1. The incorporators of the Corporation and such other organizations or persons elected thereto shall be members of the Corporation.

SECTION 2. Members may be elected by a two-thirds vote of the Board of Directors, notice of said proposed election having been served upon all the Directors at least ten days before action thereon, with notice of the time and place for action thereon.

## ARTICLE III
### Objectives and Powers

SECTION 1. The objectives of this Corporation shall be to promote the general welfare of chemists.

SECTION 2. The Corporation has all the powers granted by Article II of the Membership Corporations Law of the State of New York, April 30th, 1926, as amended, and the general powers and privileges of a membership corporation conferred by the laws of New York.

## ARTICLE IV
### Seal

SECTION 1. The following is the seal of the Corporation:

## ARTICLE V
### Offices

SECTION 1. The principal office of this Corporation shall be located in the Borough of Manhattan, in the City of New York, at such place as the Board of Directors may from time to time determine.

## ARTICLE VI
### Directors

SECTION 1. The Board of Directors shall be the legal representatives of this Corporation, shall have charge of the property and financial affairs of this Corporation and shall perform such duties as are prescribed by law and by its By-Laws.

SECTION 2. Meetings of the Board of Directors, other than those determined by the Board of Directors, may be called by the President, or upon the written request of three Directors, the time and place and subject of said meeting being served upon each Director at least ten days before said meetings.

SECTION 3. Vacancies in the Board of Directors may be filled by a two-thirds vote of the Directors, said elected Director to serve during the unexpired term.

SECTION 4. The Directors shall be elected at the Annual Meeting for the term of one year.

## ARTICLE VII
### Officers and Manner of Election

SECTION 1. The officers of the Corporation shall be a President, a Vice-president, a Secretary, and a Treasurer.

SECTION 2. The officers shall be elected by a two-thirds vote of the Board of Directors at its first meeting following their election.

SECTION 3. The term of the officers shall be one year, until their successors shall have qualified, and they shall be eligible for re-appointment or re-election.

## ARTICLE VIII
### Duties of Officers

SECTION 1. It shall be the duty of the President to preside at all meetings of the Board of Directors and to exercise general care and supervision over the business affairs and guidance of the Corporation, subject at all times to the direction of the Board of Directors, and shall perform all acts usually incident to the office of the President and those which are, or may be, authorized or required by any law or by-law.

SECTION 2. In the absence of the President, the Vice-president, or other member of the Board designated by the Board of Directors, shall preside.

SECTION 3. The duties of the Secretary and the Treasurer shall be those usually pertaining to such offices. The Secretary in addition to performing the usual duties of that office shall discharge such other duties as may be imposed upon him by the Board of Directors, and shall submit a written report at each regular meeting of the Board of Directors.

SECTION 4. The offices of the Secretary and Treasurer may be held by the same person.

SECTION 5. The Board of Directors shall cause the Treasurer to be bonded.

## ARTICLE IX

### Committees

SECTION 1. The Directors shall appoint such committees as may be necessary to aid in the management of the business affairs and purposes of the Corporation, including securing of necessary funds, coordination of employment and welfare activities, approval of bills for payment, and the auditing of accounts, the chairman of each said committee to be a Director, and the President and Secretary shall be members *ex-officio* of each committee.

SECTION 2. Appointments on the above committees shall be made with the approval of the Board of Directors by a two-thirds vote.

SECTION 3. The following shall constitute the regular standing committees:

(A) Executive
(B) Finance
(C) Employment and Welfare
(D) Publicity
(E) General Affairs and Counsel

SECTION 4. The Board of Directors shall have the power to appoint persons not members of the Board of Directors to serve on committees when approved by a two-thirds vote of the Board.

SECTION 5. The duties of each committee shall be designated by the Board of Directors.

## ARTICLE X

### Employees

SECTION 1. The Board of Directors shall engage a general manager to serve at the pleasure of the Board, who may also be elected to be Secretary of the Corporation. He shall be the principal administrative official of the office of the Corporation, shall have such additional duties as may be prescribed from time to time by the Board of Directors, and shall be responsible to that Board.

SECTION 2. The Board of Directors shall also be empowered to elect or appoint such other agents or employees as shall be necessary for the proper conduct of the affairs of the Corporation.

## ARTICLE XI

### Salaries and Wages

SECTION 1. No member of the Board of Directors shall receive any pecuniary compensation for his services.

SECTION 2. The salaries of the general manager and other employees of the Corporation who are to receive pecuniary compensation shall be fixed and approved from time to time by the Board of Directors.

## ARTICLE XII
### Financial Matters

SECTION 1. Monies derived by voluntary contributions and other means as may be proper under the Certificate of Incorporation of the Corporation, received by the Corporation shall be deposited in the name of the Corporation in the bank or banks, trust company or trust companies, which the Board of Directors shall from time to time designate.

SECTION 2. Checks, drafts or money orders drawn to the order of the Corporation may be endorsed for deposit in the Corporation's bank account by the Treasurer.

SECTION 3. Checks, drafts or money orders by the Corporation shall be signed by such officer, or officers, stipulated by these By-Laws, or otherwise, as the Board of Directors may from time to time direct.

SECTION 4. Trust funds, bequests, donations, and "ear-marked" monies may, subject to the approval of two-thirds vote of the Board of Directors, be received and administered as may be necessary and proper.

## ARTICLE XIII
### Meetings

SECTION 1. There should be a regular annual meeting of the Board of Directors and members of the Corporation at such time and place as shall be determined by the Board, the time of said annual meeting being not later than the thirty-first day of January of each year. The fiscal year of the Corporation shall end with the thirty-first day of December of each year.

SECTION 2. Notice of each annual meeting of the Corporation shall be sent to each member at his last known address at least fifteen days before each meeting.

SECTION 3. Other meetings of the Board of Directors and the members of the various committees may be held as often as required to promote the purposes of the Corporation.

## ARTICLE XIV
### Quorum

SECTION 1. A simple majority of members of the Board of Directors shall constitute a quorum for the transaction of any business duly presented at any properly called meeting of the Board of Directors, and

a similar quorum shall apply to other properly called meetings of the Corporation.

### ARTICLE XV
**Amendents**

SECTION 1. The Secretary shall submit to the Board of Directors any proposal to amend the by-laws of the Corporation which shall be proposed by three or more directors of the Corporation.

SECTION 2. All such proposals to amend must be submitted in writing to the Secretary of the Corporation at least sixty days before the meeting of the Board of Directors at which it is to be presented for action.

SECTION 3. A copy of every proposal to amend shall be mailed to every member of the Corporation at least thirty days before the meeting at which it is to be presented for action.

SECTION 4. Every proposal to amend, duly made in the above manner, shall be laid before the annual meeting for discussion and vote, or before a special meeting of the members called for this purpose. If the proposed amendment is approved by a two-thirds vote of the members present, it shall be adopted.

## Sumner Rollin Church

It is with deep regret that THE AMERICAN INSTITUTE OF CHEMISTS records the death of Sumner Rollin Church, F.A.I.C., a member since 1927, on December 26, 1937.

Mr. Church was born in Brooklyn, New York, in 1879, and he received his chemical education at Pratt Institute. He was employed by the Barrett Company from 1900 to 1925, where he held various positions including that of manager of the research department, manager of the tar and oil division of the general manufacturing department, and technical advisor. He specialized in coal by-products, tar products, wood preservation, and the utilization of bituminous materials. More than forty papers dealing with these subjects were published by him. He was one of the pioneers in standardizing and obtaining recognition for methods of analysis in the coal tar industry and the wood preserving industry. At the time of his death, he was a consulting chemist with offices in New York, N. Y.

# Research at the du Pont Company

**An excerpt from the statement of Lammot du Pont before the Special Senate Committee to Investigate Unemployment.**

SUCCESSFUL industrial research undoubtedly creates new jobs. More that that, it creates new wealth in the form of new materials that are, necessarily, either better or cheaper than those they supplement or displace, and usually are both. The result is a wider distribution of goods and a higher standard of living. Rarely is research successful except through patient, sustained work over a period of years, during which substantial sums must be expended long in advance of any hope of return.

Research demands long-term planning. Current outlays of money for its needs are aimed, in the main, at five, ten, or twenty years hence. Du Pont employment in 1937 was what it was, not because of that year's research, but because of money spent on research in 1932, 1930, and earlier. In line with long-established policy, this form of insurance on the future has been held intact by du Pont management regardless of the ups and downs of sales charts. How such a policy affects employment can best be clarified by citing actual examples.

The du Pont Company entered the field of manufacture of chemicals by high pressure synthesis in 1926, commencing with the fixation of atmospheric nitrogen for the production of ammonia. This was done by the purchase of a process that had been developed in France. A plant was built at Belle, West Virginia, involving a large initial investment of capital.

If we had been making shoes or suspenders, we might reasonably have expected some return on our investment at the end of a year or two of operation. What actually happened, however, was that for the next seven years the Belle plant became to all intents a laboratory of constantly expanding proportions. A vast amount of technical knowledge had to be acquired that could be gained only through actual operating experience. Early costs were prohibitively high. The process of manufacture finally evolved bore little resemblance to the process we had bought, except in its fundamentals, and it was not until the eighth year—1933—that the operation began to show profit. To date our capital investment has been increased ten fold. Large

volume was the only road to profit, and, in turn, the one road to large volume was low price. In following those twin highways, the engineers and chemists effected five successive price reductions that brought down the cost of ammonia forty per cent in seven years. The price thus estabished in 1933 has held since, despite increases in both labor and raw material costs, with the result that industrial users and fertilizer manufacturers are today paying only half as much for fixed atmospheric nitrogen as they did for the imported natural product prior to 1914. American producers are selling nitrogen for less per pound than any other producers in the world.

Take another example:

Perhaps the most outstanding of all du Pont research developments, both from the scientific and economic viewpoints, is the rubber-like material to which has been given the name neoprene. Unlike rubber in chemical composition, neoprene is an entirely new engineering material that fits into no existing classification. It looks like rubber, acts like rubber, serves where rubber serves, and for innumerable uses it will outlast rubber by many times. The basic raw materials from which it is made are coal, limestone and salt, which we possess in abundance.

Research that led our chemists to neoprene began also in 1926. Almost six years of intensive work preceded the initial manufacture of their discovery on a small scale at Deepwater Point, N. J. And until the end of the year just closed, neoprene was produced at costs considerably in excess of its selling price, which was first $1.05 per pound, then $1.00, and then 75¢ as volume was progressively increased. Recently our chemists and engineers have been talking hopefully of neoprene's first profits—I said hopefully. Also they are talking—hopefully—of making a substantial addition to their present plant facilities. More than two hundred manufacturers, including practically all of the principal producers of rubber goods, used neoprene in 1937, mainly for purposes that rubber itself could not serve satisfactorily, if at all.

Research may serve employment as importantly by improving an existing product as by discovering a new one. Striking example of this fact is found in "Cellophane" cellulose film. When introduced in America by du Pont, in 1924, through the purchase of the French patent rights, "Cellophane" was a product with a limited field and many faults. However, when research had found ways to render "Cellophane" moisture-proof, to strengthen it, and otherwise to adapt

it to the needs of merchandising, the new transparent wrapping material became a factor of first rank in all packaging. It inspired betterment of all wrapping materials, and, significantly, more than paid its way by reducing losses suffered in many types of goods through spoilage and handling. The price history of "Cellophane" is one of eighteen successive reductions from $2.65 a pound to an average of about 41¢ a pound in 1936. This was increased by ½¢ last year. Since moisture-proofing was added in 1927, production has increased almost fifty fold.

I believe I have already indicated that the du Pont organization as a whole employed about 10,000 persons more on December thirty-first last than were employed by it nine years ago. It is my carefully considered opinion that research efforts such as those I have outlined are due more credit for the gain in jobs than any other one contributing factor.

Moreover, in any estimate of the effect research has had on employment over this period, consideration must be given to the fact that general business was below a normal level. What the same effort might have accomplished under conditions more favorable is something on which we can't even speculate. We do know, however, that at the peak of du Pont employment last year we were 19,000 jobs ahead of the 1929 monthly average.

## Chemistry and the Patent Law

### *By* Edward Thomas

THE December meeting of the Niagara group of THE AMERICAN INSTITUTE OF CHEMISTS may eventually go down in history as noteworthy by reason of a suggestion then made which has been almost forgotten—the suggestion that Universities should offer to students of industrial chemistry a course which the speaker then extemporaneously named, "Chemistry as Taught by the Patent Literature."

The graduates in industrial chemistry will mostly go into the factories as manufacturing chemists, one of the most progressive groups in the industrial field, and yet a group who have found that it is no longer possible to keep a chemical secret.

Even improved processes practiced in secret often leave traces of

tell-tale impurities in their products which become guide posts, leading rivals learn how to match the secret process.

The chemical manufacturers endeavor to find in patents adequate bulwarks to protect them from a flood of competitors, but many patents fail to protect them because they are unskillfully or carelessly drawn.

It is these unskillfully and carelessly drawn patents which provide most of that patent litigation which fills the pages of our current law reports. It is the writer's experience that a well-drawn patent seldom gets into litigation. Only one patent he has drawn ever got into litigation, and he has drawn at least one other chemical patent which differed from prior art by the narrow margin of about one part in 40,000, and which has produced millions of dollars in royalty without litigation.

A study of recent decisions in patent litigation confirms his deductions. For example, one decision of which he knows nothing beyond what the judges have said, held a patent void for lack of invention in exothermic heating. It is evident that the judges could not have held that patent void on the grounds they did, if its specification had contained several examples of how to practice the invention.

It is true that about half of the patents coming up in litigation are held void, but that will always be true, because capable business men are reluctant to go to law about a patent when they know they are bound to lose. The reluctance to go to law is equally strong whether the business man owns the patent or is accused of infringing it. Those prospective infringers who read a properly prepared patent will estimate that it is so far above reproach that they know in advance that a judge is bound to sustain the patent they propose to infringe.

It is true that only about one patent in six or eight issued by the United States Patent Office can be called a chemical patent but that one-sixth or one-eighth of the patents issued seems to cause more trouble than all the other five-sixths or seven-eighths of the issued patents.

This estimate of trouble is based on a recent count of decisions on inventions in four hundred consecutive pages of *U. S. Patents Quarterly* which resulted in finding thirty-three decisions on chemical inventions and only twenty-nine decisions on mechanical inventions, in a sample period of about four months.

A casual study of these printed decisions on chemical inventions indicates that two problems arising out of chemical inventions cause more trouble than all other problems combined. One of these problems

is the kind of chemical patent claim which is allowable in view of the description of the invention in the specification. The other problem is the bearing or non-bearing of possible equivalents.

This analysis of the printed decisions seems to justify the inference that most of these thirty-three inventions got into trouble because their specifications were unskillfully worded or because the specifications were based on incomplete research. In other words, properly trained chemists or properly trained patent attorneys would have foreseen possible trouble and would have forestalled it.

The principles on which that needed foresight can be founded are simple and could easily be taught in the classroom together with some of the other principles of patent law in an academic semester.

The instructor, of course, would need to be well acquainted with the principles he endeavors to teach. The later developments of those principles of chemical patent law seem to be incorporated in no general patent law book yet published, not even in the large works on patent law published up to the end of the year 1937.

The present writer is unable to understand why he has been unable to find any author who adequately treats of the subjects especially mentioned above and for this reason he has devoted to these subjects more than forty pages in the new edition of his own book.* Moreover other problems of chemical patent law call for special treatment, such as the inventions dealing with fermentation, and fermentation questions fall in this book within the twenty entries under the word "biochemical".

* *The Law of Chemical Patents*, 2nd Edition, appeared February 2, 1938.

## Science Becomes A Salesman

### *By* Morris Goran

APPLIED science and engineering have for decades been the supporting pillar of manufacturing. The continuous addition of new products and efficient processes made research worthy of support. But only recently has science been brought forth to help advertising and selling.

The cruder tactics in merchandising with the aid of science reached their saturation-point several years ago. Many pages in a bulky weekly magazine announced that science had at last developed a shaving-cream, a toothpaste, or a laxative to a startling perfection. Other

advertisements stated the indorsement of some particular product by a manufacturer-sponsored pseudo-scientific organization. Realizing that every manufacturer could not have such endorsements, several magazines established "testing laboratories"; frequent advertisers were awarded with the stamp of approval of the "laboratory". Bolder firms used fear-provoking advertisements which claimed scientific bases: Patent medicines, antiseptics, tooth-paste, and yeast were guaranteed (and some still are) to have scientific heritage.

The present technique is to promote the public service connotation of science. Many times each year, in place of the customary advertisements, several types of industries devote their space to eulogies for the scientist and technician; they are lauded as tireless servants of humanity. Pharmaceutical companies print portraits arousing sentiment and terse dignified statements commending science for progress in the care and safety of womanhood and childhood. Oil companies, large electric appliance concerns, automobile manufacturers, and utility firms bless science and claim its blessing in return. All these announcements, similar in format, are intended to convey the impression that such a disinterested and renowned agency as science is in league with a public service institution rather than a profit-making organization. Further, the reader is expected to transfer some of the esteem and reverence in which the supposed ally is held to the particular firm. Experience has shown that such announcements not only serve as a successful sales stimulant but also act as a sedative for the underpaid and unemployed among technicians. The same effect of associating an organization with the promotion of human welfare is sought for in the radio advertising of a number of companies.

Such advertising campaigns originated with and are undertaken solely by the consumers goods industries. The advertisements of the capital goods industries in the numerous trade journals very seldom distort scientific facts and principles nor are they guilty of "scientific" advertising with finesse. Instead of employing science in advertising, they use it in selling. Engineers and technicians with pleasant personalities are drafted into the sales force and called sales engineers. This practice has become so widespread that such groups are no longer in a privileged status; they are merely salesmen more familiar with the products they sell.

The learned societies make feeble efforts, if any, to curb and regulate "scientific" advertising. Several groups welcome the publicity stressing the public service of science. They argue that it increases

the prestige of chemists, bacteriologists, and other science professionals. Others complain that untruthful advertising, far more dangerous than misleading or that exploiting science, should first be barred. More important than any of these reasons is the fact that scientists themselves are not concerned in general with how society uses technological advances nor with the effect which science itself has upon society.



# Concannon Heads Rome Delegation

**Tenth International Congress of Chemistry to Meet May 14-21, 1938**

C. C. Concannon, F.A.I.C., has been selected Chairman of the United States delegation to the Tenth International Congress of Chemistry to be held in Rome, Italy, in May, according to an announcement released by the U. S. Department of State as follows:

This Government has accepted the invitation of the Italian Government to participate in the Tenth International Congress of Chemistry which will be held at Rome, Italy, from May 16 to May 21, 1938, and the following named persons have been appointed delegates on the part of the United States:

C. C. Concannon, F.A.I.C., Chief, Chemical Division, Department of Commerce, Chairman of the Delegation; Edward Bartow, Ph.D., D.Sc., State University of Iowa, Iowa City, Iowa; Norman Bekkedahl, Ph.D., Associate Chemist, National Bureau of Standards, Department of Commerce; Marston T. Bogert, F.A.I.C., Sc.D., LL.D., Columbia University, New York, New York; Henry A. Gardner, F.A.I.C., D.Sc., President and Director, Institute of Paint and Varnish Research, Washington, D. C.; W. A. Noyes, Ph.D., LL.D., Chem.D., D.Sc., University of Illinois, Urbana, Illinois; Charles L. Parsons, D.Sc., Dr. Chem., General Secretary, American Chemical Society, Washington, D. C.; Alexander Silverman, F.A.I.C., Sc.D., Pittsburgh, Pennsylvania; W. W. Skinner, D.Sc., Assistant Chief, Bureau of Chemistry and Soils, Department of Agriculture; John W. Turrentine, Ph.D., American Potash Institute, Incorporated, Washington, D. C.; E. R. Weidlein, F.A.I.C., Sc.D., LL.D., Director, Mellon Institute, and President, American Chemical Society, Pittsburgh, Pennsylvania.

This meeting is the regular quadrennial Congress of the International Union of Chemistry, one of the affiliated unions of the International Council of Scientific Unions of which this Government is a member.

A communication from the President of the Congress, Professor Dr. Niccola Parravano states in part as follows:

The scientific meetings will be held in the buildings of Rome's new

"University City" and the Congress will carry on its work under the following schedule:

Saturday, May the 14th, evening: Reception to welcome all the members of the Congress and their families.

Sunday, May the 15th, morning: Opening meeting. Afternoon: Tour of the city of Rome and reception at the Palatine.

Monday, May the 16th, morning: Two general conferences. Afternoon: One general conference. Papers read dealing with each section. Evening: Concert.

Tuesday, May the 17th, morning: Excursion to Ostia. Visit to the ruins and modern sea front. Dinner. Afternoon: Two general conferences. Papers read dealing with each section.

Wednesday, May the 18th, morning: Two general conferences. Afternoon: One general conference. Papers read dealing with each section. Reception.

Thursday, May the 19th: Excursion.

Friday, May the 20th, morning: Two general conferences. Afternoon: One general conference. Papers read dealing with each section. Evening: (to be decided).

Saturday, May the 21st, morning: Closing of the Congress. Evening: Closing banquet.

The Organizing Committee makes reserve to modify this program in its details, when unforeseen causes will request it.

After the close of the Congress, beginning Sunday, May 22nd, tours of inspection to industrial plants and tours of general interest will be organized according to schedules which will be issued in due course.

Simultaneously with the 10th International Chemistry Congress, the 13th Conference of the Chemistry International Union will be held according to a program that will be made known in the near future.

Persons intending to deliver papers during the work of the Congress will please fill in form (annex B) and forward it to the address of the Congress, as above given, not later than February 28th, 1938.

The Congress minutes will also publish, upon request, the communications which, though presented regularly and in due time, have not been read during the Congress for some reason or other.

Those expecting to attend the Tenth International Congress of Chemistry in Rome, May 14-21, 1938, include:

Professor Edward Bartow, State University of Iowa, Iowa City, Iowa.
Professor Marston T. Bogert, F.A.I.C., Columbia University, New York City.
Professor J. F. Norris, Mass. Institute of Technology, Cambridge, Mass.
Dr. Charles L. Parsons, Mills Building, Washington, D. C. Wtih his two daughters, Mrs. Cooper and Mrs. Vaughan.
Professor Robert E. Swain, F.A.I.C., Stanford University, California.
Professor Ross A. Baker, F.A.I.C., (present address is XIX Gregor Mendelstrasse 54/4 Vienna, Austria).
Dr. Norman P. Bekkedahl, U. S. Bureau Standards, Washington, D. C.
Professor Henry K. Benson, University of Washington, Seattle, Wash.

Dr. Gustav Egloff, F.A.I.C., Universal Oil Products Co., 310 S. Michigan, Chicago, Ill.
Dr. Colin G. Fink, Chemistry Dept., Columbia University, New York.
Dr. Donald B. Keyes, F.A.I.C., University of Illinois, Urbana, Ill.
Dr. Samuel C. Lind, University of Minnesota, Minneapolis, Minn.
Dr. Arthur F. Scott, Reed College, Portland, Oregon.
Dr. E. R. Weidlein, F.A.I.C., Mellon Institute, Pittsburgh, Pa.
Miss Emma P. Carr, Mount Holyoke College, South Hadley, Mass.
Dr. J. V. N. Dorr, The Dorr Company, 570 Lexington, New York.
Dr. J. B. Ekeley, F.A.I.C., University of Colorado, Boulder, Colo.
Dr. J. C. Hostetter, F.A.I.C., Hartford-Empire Co., Hartford, Conn.
Dr. W. L. Jennings, F.A.I.C., 18 Centre St., Cambridge, Mass.
Dr. Ralph E. Montonna, University of Minnesota, Minneapolis, Minn.
Dr. W. A. Noyes, Jr., Brown University, Providence, R. I.
Dr. Atherton Seidell, National Institute of Health, Washington, D. C.
Dr. Alexander Silverman, F.A.I.C., University of Pittsburgh, Pittsburgh, Pa.
Dr. M. L. Crossley, F.A.I.C., Calco Chemical Co., Bound Brook, N. J.

# EMPLOYMENT

## Positions Offered

### U. S. Civil Service Examination

Senior Scientific Aid (Preparator in Pathology), $2,000 a year. Army Medical Museum, War Department. Applications must be on file with the U. S. Civil Service Commission at Washington, D. C., by March 7, 1938. High School and five years of experience required in preparing specimens of histologic and pathological tissues, of which two years must have been in museum work. College education may be substituted for experience except that two years' museum work is required.

Ph.D. wanted with broad experience in organic and inorganic chemistry, with history of laboratory research along broad lines with creative results. Not over 45. Please reply to Box 21, THE CHEMIST.

Wanted: Recent Ph.D., organic major. Position in New York. Salary about $250 month. Please reply to Box 23, THE CHEMIST.

## Available

Chemical Engineer, F.A.I.C., age 33 with 10 years' experience for work in production or in the development of semi-work and full scale plants from research data in the chemical or allied processing industries. Can assume full charge of work in medium sized plants. Experience in fields of fine chemicals, utilization of wastes, and gaseous syntheses operations. Please reply to Box 22, THE CHEMIST.

# Scandinavian Fellowships

The American-Scandinavian Foundation, 116 E. 64th Street, New York, N. Y., announces the award of fellowships of $1,000 each for study in the Scandinavian Countries:

*Sweden*: Fellowships in any of the following subjects:
Chemistry, Physics, Mathematics, Agricultural Sciences, Administrative or Social Sciences, Forestry, Mining and Metallurgy, Electrical Engineering, Language and Literature, other Humanistic, Technical and Scientific subjects.

*Denmark*: Fellowships in any of the following subjects.
Industrial Organization, Coöperative Agriculture, Agricultural Sciences, Bacteriology, Physiology, Chemistry, Physics, Mathematics, Folk High Schools, Language and Literature, other Humanistic, Technical and Scientific subjects.

*Norway*: Fellowships in any of the following subjects:
Oceanography, Hydro-Electricity, Forestry, Agricultural Sciences, Chemistry, Physics, Mathematics, Language and Literature, Weather Forecasting at Bergen Geo-Physical Institute, other Humanistic, Technical and Scientific subjects.

### Instructions for Candidates

*Qualifications*—Candidates must have been born in the United States or its possessions. They must be capable of original research and independent study, and each must submit a definite plan of study. It is desirable that they be college graduates and familiar with at least one language in addition to English—preferably Swedish, Danish or Norwegian.

*Stipend*—$1,000. Payable in quarterly installments, the first immediately before departure.

*Period of Study*—One academic year. Students in Forestry should arrange to spend the summer at the beginning or conclusion of their work abroad in forests and forest schools, leaving America in June or January.

*Procedure of Appointment*—Application papers, including letters of recommendation and a photograph, must be filed at the office of the Foundation *before March 15th.*

Papers may be sent in directly, but if the candidate wishes the official endorsement of his college they should be filed at the office of the President or Dean of his college *before March 1st.*

Successful candidates will be notified about April 15th.

The final selection of Fellows will be made by a jury of university professors and technical experts appointed by the Foundation.

Application papers will be mailed on request to NEILSON ABEEL, Secretary.

## Bureau of Mines Fellowships

The Bureau of Mines announces Research Fellowships in Applied Science and Engineering at the University of Maryland and the Eastern Experiment Station.

The University of Maryland, in coöperation with the Bureau of Mines, offers three fellowships for research in the field of engineering and applied science. Fellows enter upon their duties on July first, and continue for twelve months, including one month for vacation. Payments under a fellowship are made at the end of each month and amount to $600 for the year. The University will remit payment of tuition fees and will grant all fellowship privileges.

Fellows register as students in the graduate school of the University of Maryland, and become candidates for the Ph.D. degree.

**University of Maryland Fellowship in Chemical Engineering**

To encourage coöperation with the industries of Maryland and to develop research and instruction in Chemical Engineering, the University of Maryland will offer two fellowships in chemical engineering. These fellowships will pay a stipend of $500 per year and will ordinarily require residence during the university year from September to June.

All of the foregoing fellowships are open to postgraduates of universities and technical colleges, who have the proper training in engineering or applied physical science, and who are qualified to undertake research work. Preference will be given to men who have already had one year of graduate work, and who have experience in research work.

Applications with a certified copy of college record, applicant's photograph, statement of technical and practical experience (if any), and letters from three persons, such as instructors or employers, covering specifically the applicant's character, ability, education, and experience, will be received up to April 1, 1938. The application should be addressed to Fellowship Committee, Eastern Experiment Station, Bureau of Mines, U. S. Department of the Interior, College Park, Maryland.

# COUNCIL

## OFFICERS

*President,* MAXIMILIAN TOCH
*Vice-President,* ROBERT J. MOORE
*Secretary,* HOWARD S. NEIMAN
*Treasurer,* BURKE H. KNIGHT

## COUNCILORS

ROSS A. BAKER
FRANK G. BREYER
HANS T. CLARKE
M. L. CROSSLEY
NEIL E. GORDON
HENRY G. KNIGHT
W. T. READ
ALLEN ROGERS
NORMAN A. SHEPARD
LLOYD VAN DOREN
GERALD WENDT

## CHAPTER REPRESENTATIVES

| *New York* | *Niagara* | *Philadelphia* | *Washington* |
|---|---|---|---|
| FRED'K W. ZERBAN | A. W. BURWELL | J. W. E. HARRISSON | LOUIS N. MARKWOOD |

*December Meeting*

The one-hundred and forty-eighth meeting of the Council of THE AMERICAN INSTITUTE OF CHEMISTS was held at The Chemists' Club, 52 East 41st Street, New York, N. Y., on December 16, 1937.

President Maximilian Toch presided.

The following officers and councilors were present:

Messrs: B. H. Knight, H. G. Knight, H. S. Neiman, W. T. Read, M. Toch, and F. W. Zerban.

Mr. M. R. Bhagwat, Secretary of the Chemists' Unemployment Committee, was present. Miss V. F. Kimball was also present.

The minutes of the previous meeting were accepted.

The treasurer's report, covering the period from October 31st to December 16th, and showing a cash balance of $2096.45 with liabilities of $422.06, was read and accepted.

The date of the January Council meeting was set for January 20, 1938. (Later changed to January 18, 1938.)

The Secretary read a letter from Dr. Howard W. Post regarding representation for the Niagara Chapter on the Committee on Unemployment.

Upon motion made and seconded, it was decided that sub-committees should be appointed in the various Chapters to coöperate with the newly formed board of the Chemists' Advisory Council.

The following new members were elected:

FELLOWS

**Bole, George A.**
(1938), *Research Professor,* The Ohio State University, Columbus, Ohio.

**Jackson, Richard F.**
(1938), *Senior Chemist,* National Bureau of Standards, Washington, D. C.

**Williams, Kenneth T.**
(1938), *Associate Chemist,* Bureau of Chemistry and Soils, Department of Agriculture, Washington, D. C.

**Wohlleben, William J.**
(1938), *Professor and Head, Department of Chemistry*, University of Dayton, Dayton, Ohio.

Mr. Bhagwat reported for the Chemists' Unemployment Committee.

There being no further business, adjournment was taken.

*January Meeting*

The one-hundred and forty-ninth meeting of the Council of THE AMERICAN INSTITUTE OF CHEMISTS was held at The Chemists' Club, 52 East 41st Street, New York, N. Y., on January 18, 1938.

President Maximilian Toch presided.

The following officers and councilors were present: Messrs. F. G. Breyer, H. T. Clarke, M. L. Crossley, B. H. Knight, R. J. Moore, H. S. Neiman, W. T. Read, N. A. Shepard, M. Toch, and F. W. Zerban. Mr. M. R. Bhagwat, Secretary of the Chemist Advisory Council, was present. Miss V. F. Kimball was also present.

The minutes of the previous meeting were accepted.

The Treasurer's report, covering the period from December 17, 1937, to January 18, 1938, and showing cash on hand of $1436.31 with liabilities of $98.12, was read and accepted.

Upon motion made and seconded, it was decided to drop those members who have not paid dues since the fiscal year 1934-1935.

Upon motion made and seconded, the following resolution was passed:

RESOLVED: That a vote of thanks be extended to the firm of Watson, Bristol, Johnson and Leavenworth, New York City, and particularly to Dr. Lloyd Van Doren and Mr. Smith of that firm, for the work which they did in connection with securing a charter for the Chemist Advisory Council; that this resolution be spread upon the minutes and that a copy of it be sent to the above firm.

Upon motion made and seconded, Thursday, February 24th, was selected for the next meeting of the Council.

Upon motion made and seconded, Mr. Hyman I. Feinstein was raised from Associate to Fellow.

Upon motion made and seconded, the following new members were elected:

LIFE MEMBER

**Lewis, George A.**
(1938), *General Superintendent*, L. Martin Company, 45 East 42nd St., New York, N. Y.

FELLOWS

**Alles, Gordon A.**
(1938), *Chemical Research*, 672 South Westlake Avenue, Los Angeles, Cal.

**Baker, Chester L.**
(1938), *Chief Chemist*, Philadelphia Quartz Company, Philadelphia, Pa.

**Banks, H. P.**
(1938), *Vice-president*, I. F. Laucks, Inc., Seattle, Wash.

**Canter, Hall**
(1938), *Head, Department of Chemistry*, Randolph-Macon College, Ashland, Va.

**Clements, F. O.**
(1938), *Technical Director*, Research Laboratories Division, General Motors Corporation, 485 West Milwaukee Avenue, Detroit, Mich.

**Coles, Henry L.**
(1938), *Head, Department of Chemical Engineering*, University of Colorado, Boulder, Col.

**Darling, S. F.**
(1938), *Associate Professor*, Lawrence College, Appleton, Wisconsin.

**Daughenbaugh, Paul J.**
(1938), Sharp and Dohme, Technical Division, Glenolden, Penna.

**Degering, Edward F.**
(1938), *Assistant Professor, Chemistry Department,* Purdue University, W. Lafayette, Ind.

**Doisy, E. A.**
(1938), *Director,* Department of Biological Chemistry, St. Louis University School of Medicine, 1402 South Grand Boulevard, St. Louis, Mo.

**Domogalla, B. P.**
(1938), *City Chemist, Biologist, Bacteriologist,* City Board of Health, Madison, Wis.

**Doty, M. P.**
(1938), *Superintendent, Dry Color Factory,* The Sherwin-Williams Co., 115th St. and Cottage Grove Avenue, Chicago, Ill.

**Ekeley, John B.**
(1938), Department of Chemistry, University of Colorado, Boulder, Col.

**Felsing, W. A.**
(1938), *Professor,* Department of Chemistry, The University of Texas, Austin, Texas.

**French, Dudley K.**
(1938), *Engineering Chemist,* 503 Hawthorne Lane, Winnetka, Ill.

**Germann, Frank E. E.**
(1938), *Professor of Physical Chemistry,* University of Colorado, Boulder, Colorado.

**Gibbons, Vernette L.**
(1938), *Professor,* Mills College, Mills College, Cal.

**Gooch, W. T.**
(1938), *Head Department of Chemistry,* Baylor University, Waco, Texas.

**Hamilton, W. F.**
(1938), *Manager Production Development Department,* Richfield Oil Corp., Richfield Building, Los Angeles, Cal.

**Hart, H. B.**
(1938), *Head Department of Chemistry,* Jamestown College, Jamestown, North Dakota.

**Hendrix, B. M.**
(1938), *Head Department of Chemistry,* School of Medicine, The University of Texas, Galveston, Texas.

**Holdt, Charles**
(1938), *General Chemical Superintendent,* Condoroil and Paint, S. A., Brasil Oiticica, S. A. Avenida Barão de Teffé 94, Rio de Janeiro, Brazil.

**Hopkins, B. S.**
(1938), University of Illinois, Department of Chemistry, Urbana, Illinois.

**Hunter, H. L.**
(1938), The Clemson Agricultural College, Clemson College, S. C.

**Johnson, Charles W.**
(1938), *Dean and State Chemist,* University of Washington, College of Pharmacy, Seattle, Washington.

**Johnson, George H.**
(1938), *Director of Research,* American Institute of Laundering, Joliet, Illinois.

**Kaufmann, Ralph J.**
(1938), *Head,* Department of Chemistry, The University of Tulsa, Tulsa, Oklahoma.

**Latshaw, W. L.**
(1938), *Director Agricultural Department,* U. S. Smelting, Refining and Mining Company, Salt Lake City, Utah.

**Lavine, Irvin**
(1938), *Professor of Chemical Engineering,* The University of North Dakota, University Station, Grand Forks, N. D.

**LeClerc, J. A.**
(1938), *Senior Chemist,* Bureau of Chemistry and Soils, Food Research Division, Washington, D. C.

**Lochte, H. L.**
(1938), *Associate Professor,* University of Texas, University Station, Austin, Texas.

**Lomanitz, S.**
(1938), *Analytical and Consulting Chemist*, General Laboratories, 233-234 Terminal Arcade Building, Oklahoma City, Okla.

**McLaughlin, George D.**
(1938), *Director*, B. D. Eisendrath Memorial Laboratory, Racine, Wis.

**Moerke, Georgine A.**
(1938), *Chemist*, William H. Maybury Sanatorium, Northville, Mich.

**Nelson, W. K.**
(1938), *Senior Research Chemist*, Shell Petroleum Corporation, Wood River, Ill.

**Reinmuth, Otto**
(1938), *Editor*, Journal of Chemical Education, Kent Chemical Laboratory, University of Chicago, Chicago, Ill.

**Remington, Roe E.**
(1938), *Biological Consultant; Specialist in Nutritional Problems*, Charleston, S. C.

**Rozema, C. E.**
(1938), Research Laboratory, Haskelite Manufacturing Corporation, Grand Rapids, Mich.

**Smithson, Frederick C. M.**
(1938), Department of Chemistry, New Mexico School of Mines, Socorro, New Mexico.

**Stammelman, M. J.**
(1938), *President*, The Atmos Products Corp., 54 West 22nd Street, New York, New York.

**Wakeman, Nellie**
(1938), *Assistant Professor*, Pharmacy College, The University of Wisconsin, Madison, Wis.

**Wechter, E. J.**
(1938), *Research Chemist*, Louisville Cement Company, Speed, Indiana.

**Wendt, Louise M.**
(1938), Nebraska State Teachers' College, Wayne, Nebraska.

**Wertheim, E.**
(1938), *Professor of Organic Chemistry*, University of Arkansas, Fayetteville, Ark.

**White, Mollie G.**
(1938), *Professor of Chemistry*, Stephens College, Columbia, Mo.

**Whitesell, W. A.**
(1938), *Professor of Chemistry*, University of South Carolina, Columbia, South Carolina.

**Yoder, Lester**
(1938), *Assistant Professor*, Iowa State College, Ames, Iowa.

**Zinsser, Frederick G.**
(1938), *Manufacturing Chemist*, Zinsser and Company, Inc., Hastings-on-the-Hudson, New York.

JUNIORS

**Jehle, Joseph F.**
(J.1938), *Builder of Special Chemical Apparatus, Routine Laboratory Analysis*, William M. Grosvenor Laboratories, 50 East 41st St., New York.

**Martino, Lawrence C.**
(J.1938), *Control Chemist*, Lever Brothers Soap Manufacturing Company, Cambridge, Mass.

Mr. Breyer and Mr. Bhagwat reported upon the organization of the Chemist Advisory Council.

There being no further business, adjournment was taken.

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The Bureau of Mines is giving a series of lectures at the University of Maryland which are open to the public. The first lecture will be given on March first by Dr. John W. Finch, Director of the Bureau of Mines, who will speak on "Minerals and Industry." Later lectures will be given by Dr. A. C. Fieldner, "Fuels of Today and Tomorrow," March 22nd; Dr. W. C. Schroeder, "Boiler Water, the Treatment of Feedwater for a Modern High-pressure Boiler," April 26th; and Dr. R. S. Dean, "Mineral Physics," May 24th.

# CHAPTERS

## New York

*Chairman,* William T. Read *Vice-chairman,* D. D. Berolzheimer

*Secretary-treasurer,* James W. H. Randall
52 East 41st Street
New York, N. Y.

*Council Representative,* Frederick W. Zerban

A meeting of the New York Chapter was held on February 18, 1938, at The Chemists' Club, New York, N. Y., at which Miss Florence E. Wall, consultant and author, lecturer at New York University, spoke on the subject of "The Status of Women Chemists." The formal discussion was opened by Mrs. Catherine Filene Shouse, chairman of the board of directors of the Institute of Women's Professional Relations. Other guests contributing to the discussion were Miss Patricia Edgerly, director of the New York Medical Exchange, and Miss Granville Meixell, engineering librarian of Columbia University. The full proceedings of the meeting will be published in a later issue of THE CHEMIST.

## Niagara

*Chairman, Howard W. Post* *Vice-chairman,* William R. Sheridan

*Secretary-treasurer,* Luther M. Lauer
98 North Buffalo Street
Orchard Park, N. Y.

*News Reporter to* THE CHEMIST, W. A. Smith
*Council Representative,* Arthur W. Burwell

A meeting of the Niagara Chapter was held on February fourth at the Niagara Club, Niagara Falls, N. Y.

Following a brief business meeting, several suggestions for symposia were made, including Dr. Vaughn's suggestion "The Love Live of the Chemist", à propos of the well-known concentration of the chemist in his work, be used as a topic!

The subject of the evening's discussion was "The Success and Failure of Industrial Corporations." Mr. Charles F. Smith divided the failure of industrial corporations into two groups: 1. Those corporations which are predestined to fail in spite of anything that the personnel can do; 2. Those corporations which fail in spite of auspicious circumstances. In the first group, several things may contribute to failure. (a) The business may be of insufficient magnitude, i.e. on too small a scale to be profitable. (b) Insufficient capital or unforseen contingencies, such as delays in production, disappointments in market-

ing (depression), or unpredictable market trends, may cause failure. (c) The choice of location of the business with relation to its source of raw materials or markets; labor market conditions; power and water insufficiencies; competition with low cost units; or too costly disposal of wastes, are all important factors. (d) The selection of personnel is another important factor. If a wrong selection is made, failure is foreordained. Mistakes of management are irreparable. Also, new companies are frequently formed in boom times when good men are scarce and hard to obtain.

Corporations which fail (group 2) in spite of auspicious circumstances generally do so because of management failure. The banker, for example, usually wrecks an industry. Absentee management is often the cause of failure. Inherited management (heirs of the entreprencur) may cause failure. Other causes contributing to failure may be: operating deficiences, obsolete equipment; lack of proper maintenance causing costly delays; excessive overhead costs through "dead wood" among the personnel; deficiencies in the product (not kept up to date, or ahead of the trend), quality or uniformity not maintained. Uneconomic price policies; style and novelty; packaging; bad credit judgment; research and development not kept abreast of times; excessive capitalization. All of these faults could be corrected by proper management, and thus the sins of the management are responsible for this type of failure.

The old principle of never answering a margin call is a cardinal principle in management also. Many managements fail because of a mistaken "soft hearted" attitude toward men and policies.

Mr. F. L. Koethen contributed the following discussion to the subject: In a corporation bookkeeping matters are a prime consideration and are important. Fundamental economies are important in spite of the "new economics"; but with specific reference to chemical companies, falling down in research is the prime consideration. Such companies should spend three per cent of their gross receipts or twenty-five percent of their net receipts in research and development, because chemical industry is in a continual state of change and advance. For example, German synthetic methonol at twenty cents per gallon under our market price almost wrecked the industry. Only one magazine, "Chemical Industries" recognized that a milestone had been reached, through the work of chemical research in this country to produce synthetics. The fixation of nitrogen is another example. Rayon almost wrecked the cotton industry in New England. The cotton industry did not properly evaluate the new product. The wood distillation industry is another example. Charcoal, which used to be wasted, is now an important product. The refrigeration of deep mines is going to have an effect on the gold value of the dollar. Price trends are important, for example, the price of glycerine a year ago and today. The proper technical advice as well as legal and management advice is important in the operation of chemical concerns now. Chemists should make this known to the business world.

In the general discussion which followed these talks, the question "Can a company do too much research?" was asked, and answered "Not likely in the present age. Sooner or later the value will show up."

The inadequacy of facilities is not

necessarily a disadvantage. Small companies in the abrasives industry cause untold worry to large companies because of their versatility and application to narrow concentrated markets.

It was also pointed out that maintaining an adequate price is an important factor in the success of industry. The discount evil is eventually sales murder.

The tax situation, too, is putting increased pressure on concerns, and may virtually force liquidation.

## Pennsylvania

*Chairman*, Gilbert E. Seil *Vice-chairman*, Walter L. Obold

*Secretary-treasurer*, Maurice L. Moore
Sharpe and Dohme, Inc.
P. O. Box 1404
Philadelphia, Penna.

*Council Representative*, Joseph W. E. Harrisson

## Washington

*Honorary President*, Charles E. Munroe *President*, Louis N. Markwood
*Vice-President*, Norris W. Matthews *Treasurer*, James B. Martin

*Secretary*, A. P. Bradshaw
2121 New York Avenue, Washington, D. C.

*News Reporter to* THE CHEMIST, James F. Couch
*Council Representative*, Louis N. Markwood

# BOOKS

SYSTEMATIC ORGANIC CHEMISTRY. By Cumming, Harper & Wheeler. $10.00

PRACTICAL ORGANIC CHEMISTRY. By A. J. Mee. Five shillings.

Both of these books represent, each in their own fashion, the school of teaching organic chemistry by means of reactions. They differ chiefly in size.

The volume by Cumming, Harper & Wheeler includes over five hundred pages of text, an index of fifteen pages, and almost one hundred and eighty different types of reaction. In addition, it has a chapter of over forty pages discussing general laboratory technique, and a section of seventy odd pages on organic analysis, including elementary analysis on a macro-scale, micro-scale, and a "hemi-macro-scale".

The book is well made, clearly printed, and should serve as an excellent text and reference on organic synthesis. The documentation is fair, being chiefly distinguished for lack of reference, in most cases, to American methods. Modern catalytic methods have been introduced at a number of points and are well treated.

Except for the slighting of modern aliphatic chemistry, which is characteristic of almost all organic texts, the book is quite complete and is thoroughly recommended by the reviewer.

The volume by Mee is intended as a more elementary text and is, therefore,

very much smaller. There are two hundred and seventy pages of reading matter and an index of five pages. Preparations are followed immediately by experiments on the reactions of the product which, from the standpoint of elementary instruction, appears to be an excellent procedure.

There is a section on the qualitative analysis of organic compounds occupying twenty pages which is very likely to be quite useful. Any student working through this book will have a thorough knowledge of elementary organic chemistry.

—Karl M. Herstein, F.A.I.C.

AN ELEMENTARY COURSE IN QUALITATIVE ANALYSIS. By William L. Evans, Jesse E. Day, and Alfred B. Garrett. $2.00.

The new laboratory manual lessens the gap between the general chemistry course and elementary qualitative analysis. The cations are introduced by simple lecture-demonstration exercises and followed up with the procedure being divided into separation and precipitation, confirmatory, and supplementary reactions. The anions are treated similarly. The student is further aided by the block outline method of analysis and flow sheets for each group. Footnotes contain reasons and some theory for the procedure and reactions. After each group is found a record sheet to be turned in by the student. The theory is treated fully, concisely, and simply in a separate section of the manual. The tables included in the appendix are logarithms, solubilities, atomic weights, reactions, and the electrochemical series. The book is of the ring-binder type and when opened lays flat on the desk. It is the answer to the problem of balancing theory and laboratory procedure in the right proportions.

—Carl Fischer

COLORIMETRIC METHODS OF ANALYSIS. Volume II. By Foster Dee Snell and Cornelia T. Snell. $9.50.

Last spring, the reviewer had the pleasure of welcoming in these columns Volume I of this massive work. Of Volume II, it can be said that it fully measures up to the high standard set by its predecessor.

It is unfortunate that the vast majority of methods for the colorimetric determination of small amounts of organic compounds have been developed from the biological standpoint and that industrial organic chemicals, except those which involve a toxic hazard, have not generally been included. However, one may generally assume that, if a method of colorimetric determination of an organic compound has been published, it will be found in this volume, which comprises over seven hundred and fifty pages of text and over thirty pages of subject index. An innovation in books of American publication has been introduced comprising an author index of twenty pages.

As stated regarding the first volume, the authors have been somewhat uncritical in that they have included a variety of methods for determination of the same substance where these are available without any comparison of their merit. However, since it may well happen that one or another of these is better adapted for the user's specific purposes, the completeness of the volume serves as a great advantage.

Certainly every chemist working in this field will be able to save many hours of search through the literature by looking first in the present volume. The reviewer considers it as indispensable a tool as a handbook of molecular weights to every worker in analytical chemistry.

—Karl M. Herstein, F.A.I.C.

# NORTHERN LIGHTS

***By* Howard W. Post, F.A.I.C.**

The Annual Meeting of the parent Society of Chemical Industry of Great Britain will be held in conjunction with the Twenty-second Canadian Chemical Convention in Ottawa, June 20-22, 1938. This will be the second occasion on which the Society has held its Annual Meeting in Canada, the first meeting taking place in Montreal in 1921, although, when the Society visited the United States in 1928, the official party of British visitors landed in Quebec and spent several days making a tour of industrial centers in Eastern Canada, before going to New York.

Arriving in Quebec on June seventeenth, the visitors will see something of this city and will spend the week-end at Shawinigan Falls, before the meeting in Ottawa. Other cities will subsequently be visited.

*Preliminary Program of Tour and Meetings*

*Friday, June* 10: Leave Liverpool on C. P. R. "Duchess of Atholl".

*Friday, June* 17: Arrive Quebec. Reception; tour of the city, banquet.

10:35 p.m.—Entrain for Shawinigan Falls.

*Saturday, June* 18: Arrive Shawinigan Falls; works visits and trips. Dinner by invitation of Shawinigan Chemicals, Ltd.

*Sunday, June* 19: Golf, drives, etc.

9:45 p.m.—Leave for Ottawa.

*Monday, June* 20: Arrive Ottawa.

10:30 a.m.—Annual General Meeting and President's Address.

12:30 p.m.—Luncheon and Jubilee Lecture.

3:30 p.m.—Tour of city; visit to Government House and Experimental Farm.

*Tuesday, June* 21: Ottawa. 9:00 a.m. —Symposium arranged by Canadian Chemical Association.

12:30 p.m.—Luncheon and Messel Medal Address.

2:00 p.m.—Visit to Paugan Falls power development, by special train.

8:00 p.m.—Annual Dinner.

*Wednesday, June* 22: 9:00 a.m. — Meetings of S. C. I. Food Group and Road and Building Materials Section and of C. C. A. Sections.

12:30 p.m.—Luncheon.

2:00 p.m.—C. C. A. golf tournaments; plant visits.

10:10 p.m.—Sudbury party leaves by train.

*Thursday, June* 23: *Sudbury Alternative.* 6:05 a.m.—Arrive Sudbury. Plant visits during the day and complimentary luncheon by the International Nickel Company.

9:40 p.m.—Leave for Toronto.

*Toronto Drive Alternative.* 9:00 a.m. —Leave Ottawa for Toronto by cars or buses.

12:30 p.m.—Luncheon at Kingston.

4:30 p.m.—Visit to radium plant, Port Hope.

7:30 p.m.—Arrive Royal York Hotel, Toronto.

*Friday, June* 24: Toronto. 7:30 a.m. —Sudbury party arrives.

10:00 a.m.—Tour of the city.

12:30 p.m.—Lunch.

2:00 p.m.—Plant visits; Tea for Ladies.

8:00 p.m.—Dinner.

*Saturday, June* 25: 9:30 a.m.—Leave for Hamilton by cars or buses.

10:30 a.m.—Tour of Hamilton and plant visits.

12:30 p.m.—Luncheon.

3:30 p.m.—Leave for Niagara Falls: General Brock Hotel.

8:00 p.m.—Dinner tendered by the American Section, S. C. I.

*Sunday, June 26*: Niagara Falls, Ont. Golf, drives, etc.

*Monday, June 27*: Niagara district. Tours and plant visits.

7:00 p.m.—Special train leaves for Montreal.

*Tuesday - Friday, June 28 - July* 1st: Montreal. During these three days, plant visits, trips around Montreal and the vicinity, luncheons and dinners, etc., are being arranged.

*Friday*—July 1: 10:00 a.m.—"Duchess of York" sails for England.

*Canadian Chemistry and Metallurgy* is no more. Metallurgical affairs will be handled in the future by *Canadian Metals and Metallurgical Industries* and the older journal will carry on under the title of *Canadian Chemistry and Process Industries*. We think the term *Process Industries* is rather vague and are glad that it is. The revised journal will not be limited in its scope by a name that is too narrow or limited.

From this same journal with the new name we culled some interesting Canadian trades statistics for 1937. The figures were obtained by the journal from data released by the Hon. W. D. Euler, Minister of Trade and Commerce. In 1937 the volume of Canadian export trade was practically equal to that of 1929 and 77 per cent greater than in 1931, the recent "low". Canada now occupies fourth place among exporting nations. During this same period the rate of increase of trade with other parts of the Empire decreased while that with foreign countries increased. The Ministry expects that the favorable trade balance for 1937 will be more than $150,000,000 when all figures are in, as compared with $34,000,000 in 1936.

It is interesting to note that production and export of newsprint reached a new high in 1937.

The Canadian Institute of Chemistry reports the addition of forty-four Fellows and fifty-eight Students during 1937, the total membership now reaching six hundred and forty-four. The Treasurer reports affairs "in a very satisfactory condition." We note that the Examination Board now permits an applicant who is in industrial research to substitute for a written record of work done a statement from his employer of the responsibilities of his position and the magnitude of his contributions in development and other forms of research. This is a situation which is met with on this side of the line as well. We have in mind the circumstances attending the annual awarding of a certain medal to an industrial chemist. The intimate details of his work are never revealed to the public, perhaps not always to the committee of award itself.

Canadian production of "crude petroleum and natural gasoline" for the first eight months of 1937 totaled over 1,592,000 barrels, 85,000 more than for all of 1936.

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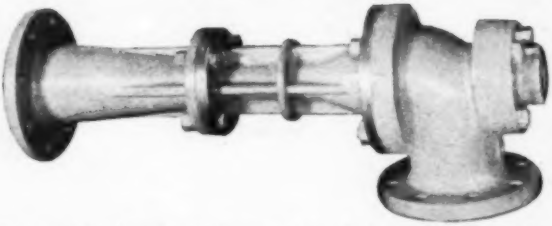

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